Pucker Up: Genetic Similarities in Large Families

DeWees, Samantha

Last year, the experimenter tested if there were differences in lip fissure patterns between ethnic groups. This year the purpose of the experiment was to determine if there is similarities of lip prints within large families. The experimenter wanted to determine, if like many human traits, lip prints were genetically similar between families. It was hypothesized, that if the lip prints of large biological families were taken and then compared, then there will be subtle similarities between family members, because there are genetic similarities in fingerprints and lip prints are similar to fingerprints. When comparing lip prints to the characteristics of fingerprints, there are some similarities. However, while the fingerprints are created by a fetus touching the amniotic sac of their mothers womb, the scientist theorized that the patterns of lip prints were given by the parents. To test the hypothesis, the scientist recruited 4 large families of six or more that consisted of parents and children. The subjects then were asked to apply lipstick and press their lips to a piece of copy paper five times. Afterword's, the scientist examined the lip prints and analyzed the results. After the classifications of the lip prints, the hypothesis was supported through a series of Chi-Square Tests. Many of the families had basic similarities relating to each other. There were, in every family, two members that had almost exactly the same amount of the same fissure patterns. The Chi-Square Test allowed the scientist to reject the null hypothesis and support the alternate hypothesis that states the lip prints are not independent, therefore they are dependent on one another.

Awards Won: